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A

BOTANICAL AND MEDICAL ACCOUNT OF THE *QUASSIA SIMARUBA*;

FROM THE
TRANSACTIONS
OF THE
ROYAL SOCIETY OF EDINBURGH.

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A Botanical *and* Medical Account *of the* *QUASSIA SIMARUBA, or Tree which produces the Cortex Simaruba.* *By* *WILLIAM WRIGHT*, M. D. F. R. S. Lond. & Edin. *and Phyſician-general in Jamaica* *.

An Hiſtorical Account of the Simaruba Bark.

THE firſt knowledge we had of the cortex ſimaruba was in the year 1713. Some of it was ſent to France to M. le Compte de Porchartrain, the Secretary of State, as the bark of a tree, called by the natives Simarouba, which they employed with good ſucceſs in dyſentery.

In 1741, M. Geoffroy, in ſpeaking of this bark, ſays, "Eſt cortex radicis arboris ignotæ, in Guiana naſcentis, et ab "incolis ſimarouba nuncupatæ: coloris eſt ex albo flaveſcentis, "nullo odore præditus, ſaporis ſubamari, lentiſcentibus fibris "conſtans, candido, leviſſimo, inſipidoque, radicum, ſtipitum, "truncique ligno hærens, a quo facile ſeparatur."

In 1753 and 1760, Linnæus makes the ſimaruba to be a ſpecies of piſtacia, or the terebinthinus major, betulæ cortice, fructu triangulari of Sloan. Jam. 289. t. 99.

In 1756, Dr Patrick Browne publiſhed his Civil and Natural Hiſtory of Jamaica. At page 345. he deſcribes the terebinthinus, or birch and turpentine tree. The bark of

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the roots, (ſays he), is thought to be the ſimarouba of the ſhops.

In 1763, Linnæus makes the ſimaruba to be the burſera gummifera, and refers to the piſtacia of former editions of the Species Plantarum; and to Sloan and Browne, as above cited. In the appendix, a reference is made to the terebinthinus Americana polyphylla. Commelin. Hort. 1. p. 149. and to Catesby's gum elemi tree.

M. Jacquin viſited all the Weſt India iſlands, and made many diſcoveries of new plants. He examined the roots of the burſera gummifera, and found their bark very different from the ſimaruba bark.

In 1772, I employed all my ſpare hours in examining the plants of Jamaica. In this delightful walk of ſcience, I diſcovered and aſcertained many hundreds of new plants which had eſcaped the diligence of former botaniſts. Amongſt others, the tree which produces the ſimaruba bark.

In 1773, ſpecimens of the fructification were ſent in ſpirits, accompanied with a botanical account of the tree, to my late worthy friend Dr Hope, Profeſſor of Botany in the Univerſity of Edinburgh; alſo ſome dried bark from the roots. The following year, ſpecimens, with ſimilar deſcription, were tranſmitted to my late learned and valuable friend Dr John Fothergill of London; who ſent them to the celebrated Linnæus at Upſal, as appears by Profeſſor Murray's Apparatus Medicaminum, vol. iii. p. 458. [*], article Simaruba. Dr Fothergill cauſed elegant drawings to be made of this plant; and theſe drawings I now have the honour of preſenting to the Royal Society of Edinburgh.

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[*] Qualis vera ejuſdem arbor ſit, jamjam Aubletii indagine cognoſcimus, ut tamen et mihi monere incumbat. b. Linnæam equitem, litteris jam anno 1776, ineunte mihi datis, antiquam Aubletii elegantiſſimum opus illi innoteſceret. ſignificaſſe, Simarubam Quaſſiæ ſpecies a ſe haberi. Ille autem ſimarubæ cortex quo Cl. Wright, arborem in Jamaica, vulgarem veſtitam eſſe innuit; pariter in alvi profluviis efficaci, &c.

It is here proper to remark, that this paper was read before the Philoſophical Society of this place, and committed for publication in 1778. At the time when that Society obtained the Royal Charter, I chanced to be abroad. On my return to Edinburgh, I withdrew the communication to correct and add to my account of this important article of Materia Medica.

Deſcription of the Tree.

The tree now to be deſcribed is common in all the woodlands in Jamaica. It grows to a great height and conſiderable thickneſs. The trunks of the old trees are black and a little furrowed. Thoſe of the young trees ſmooth and gray, with here and there a broad yellow ſpot.

The inſide bark of the trunk and branches is white, fibrous and tough. It taſtes ſlightly bitter. On cutting or ſtripping off this bark, no milky juice iſſues, as has been mentioned by various authors.

The wood is hard, and uſeful for buildings. It ſplits freely, and makes excellent ſtaves for ſugar hogſheads. It has no ſenſible bitter taſte.

The branches are alternate and ſpreading.

The leaves are numerous and alternate. On the upper ſide, they are ſmooth, ſhining and of a deep green colour; on the under ſide, they are white.

The flowers appear about the beginning of April. They are of a yellow colour, and placed on ſpikes beautifully branched.

The fruit is of that kind called a drupa, and is ripe towards the end of May. It is of an oval ſhape, is black, ſmooth and ſhining. The pulp is fleſhy and ſoft; the taſte a nauſeous ſweet. The nut is flattened, and on one ſide winged. The kernel is ſmall, flat, and taſtes ſweet.

The natural number of theſe drupæ is five on each common receptacle; but, for the moſt part, there are only two or three; the reſt abort by various accidents.

The roots are thick, and run ſuperficially under the ſurface of the ground to a conſiderable diſtance. The bark is rough, ſcaly and warted. The inſide when freſh is a full yellow, but when dry paler. It has but little ſmell. The taſte is bitter, but not very diſagreeable. This is the true *Cortex Simarubæ* of the ſhops.

This tree is known in Jamaica by the names of Mountain Damſon, Bitter Damſon and Stave-wood. The ſhops are ſupplied with this bark from Guiana; but now we may have it from our own iſlands at a moderate expence.

On examining the fructification, I found this tree to be a ſpecies of Quaſſia. Under that name, I ſent it to Europe, and Linnæus adopted it into his ſyſtem.

There are male flowers on one tree, and female flowers on another; and this is invariably the caſe in Jamaica.

Senſible Qualities of Cortex Simarubæ.

I can diſcover no aſtringency in the cortex ſimarubæ, either by the taſte, or by the various teſts to which I ſubjected it. Nor is there any mucilaginous quality to be perceived in the recent bark, or in the decoction of that which has been dried.

Its Medical Virtues in general.

Most authors who have written on the ſimaruba, agree, that in fluxes it reſtores the loſt tone of the inteſtines, allays their ſpaſmodic motions, promotes the ſecretions by urine and perſpiration, removes that lowneſs of ſpirits attending dyſenteries, and diſpoſes the patient to ſleep; the gripes and teneſmus are taken off, and the ſtools are changed to their natural colour

and

and conſiſtence. In a moderate doze, it occaſions no diſturbance or uneaſineſs; but in large dozes it produces ſickneſs at ſtomach, and vomiting. Negroes are leſs affected by it than white people.

Preparation of Simaruba Bark.

THE ſimaruba bark yields its qualities to water, either in cold infuſion or in decoction. I prefer the latter. Phyſicians have preſcribed the bark in different quantities; but it ſeems now agreed that the following proportion is the beſt:

TWO drams ſimaruba bark, boiled from twenty-four ounces of water to twelve ounces, then ſtrained.

THIS is divided into three equal parts, and the whole taken in twenty-four hours.

WHEN the ſtomach is reconciled to it, three drams may be boiled in the ſame quantity of water, and taken as above mentioned. Some join aromatics to the decoction of this bark; others give a few drops of laudanum with each doze. The decoction is to be drank daily till the diſorder is cured, which ſometimes happens in a few days, and at other times it may require weeks to perfect a cure.

Of the Effects of Simaruba in particular Diſeaſes.

HAVING thus treated of the ſimaruba in general, I am now to mention its uſe and effects more particularly in different diſeaſes, and firſt in the Dyſentery. In the years 1718 and 1723, an epidemic flux prevailed in France, and ſwept off a great number of people of all ages and of both ſexes. This diſorder not only reſiſted all the medicines given, but was aggravated by ſmall dozes of ipecacuanha, the mildeſt purgatives, and all aſtringents. The diſorder was happily cured by the ſimaruba.

M. Jussieu uſed this bark for fifteen years in obſtinate dyſenteries with great ſucceſs; and continued its exhibition, although the catamenia in women, or hæmorrhage from piles in men, occurred during the cure.

Modern phyſicians have found from experience, that this medicine is only ſucceſsful in the third ſtage of dyſentery, where there is no fever, where too the ſtomach is no way hurt, and where the gripes and teneſmus are only continued by a weakneſs of the bowels. In ſuch caſes, Dr D. Monro gave two or three ounces of the decoction every five or ſix hours, with four or five drops of laudanum; and found it a very uſeful remedy.

The late Sir John Pringle, Dr Huck Saunders, and many others, preſcribed the cortex ſimaruba in old and obſtinate dyſenteries and diarrhœas, eſpecially thoſe brought from warm climates. Fluxes of this ſort, which were brought home from the ſieges of Martinico and the Havannah, were completely and ſpeedily cured by this bark. The urine which, in thoſe caſes, had been high coloured and ſcanty, was now voided in great abundance, and perſpiration reſtored. Dr James Lind at Haſlar Hoſpital, ſays, That the ſimaruba produced theſe effects ſooner, and more certainly, when given in ſuch quantity as to nauſeate the ſtomach. Dr Huck Saunders remarks, That if the ſimaruba did not give relief in three days, he expected little benefit from its farther uſe; but others have found it efficacious in fluxes, after a continued uſe for ſeveral weeks. Authors have cautioned us againſt the uſe of this bark where the inteſtines are ulcerated and diſpoſed to cancer after fluxes.

In diarrhœas, from abſorption of pus, the ſimaruba has given relief; the former diſcharge from ſuch ulcers was reſtored, and the pus meliorated.

Lienteria itſelf, and even hepatic fluxes, have been cured by the ſimaruba, after other medicines were tried without ſucceſs. *Vide* Act. Natur. curioſ. tom. ii. p. 80,—82.

In putrid fevers, (as we are told) attended with coldneſs of the extremities, colliquative ſweats and ſtools, and great dejection of ſpirits, this bark performed wonders, and many recovered by its uſe. *Vide* ROUPE de Morbis Navigantium, p. 311.

HABITUAL colics, with bloody ſtools, attended with fever and delirium, have been radically cured by the ſimaruba bark.

IMMODERATE fluxes of the menſes and from piles, have been happily ſtopped by this medicine; and it would appear from ſome late trials, that fluor albus has been remedied by the ſame bark.

DE HAEN found the ſimaruba to be an excellent vermifuge; and uſed it with ſucceſs in diſeaſes depending on worms, particularly fluxes.

MY own experience, and that of many living friends, are convincing proofs to me of the efficacy of this medicine; and I hope the ſimaruba bark will ſoon be in more general uſe.

QUASSIA SIMARUBA.

FLOS MASCULUS.

Cal. Perianthium monophyllum, parvum, quinquefidum, denticulis ovatis, erectis.

Cor. Petala quinque, ſeſſilia, æqualia, lanceolata, ſubrevoluta, calyce triplo longiora, calyci inſerta. *Nectarium* ex ſquamis decem, ovatis, villoſis, baſi filamentorum interiori inſertis.

Stam. Filamenta decem, filiformia, æqualia, longitudine corollæ. *Antheræ* oblongæ, incumbentes; in centro floris corpus carnoſum, orbiculatum, decem-ſulcatum.

Piſtillum nullum.

FLOS FEMINEUS.

Calyx et *Corolla*, ut in flore maſculo.

Piſtillum. Germina quinque ſubrotunda, introrſum coalita. *Stylus* cylindraceus, erectus, quinque-partitus, longitudine corollæ. *Stigmata* ſubulata, recurvata, perſiſtentia.

Pericarpium. Drupæ quinque laterales, diſtantes, receptaculo orbiculato, carnoſo inſertæ.

Semina. Nux oblongo-ovata, acuminata, unilocularis. *Nucleus* compreſſus.

INFLORESCENTIA.

Panicula compoſita. Pedicellis ſubjicitur ſtipula lanceolata, petiolata. Folia alternato-pinnata. Foliola oblonga, obtuſa, nitida, integra, baſi attenuata, ſubſeſſilia; coſtis lateralibus nervoſis.

EXPLANATION OF THE PLATES.

PLATE I.

QUASSIA SIMARUBA MAS.

1. A flower of its natural ſize.
2. The ſame magnified.
3. The calix of the natural ſize.
4. The ſame magnified.
5. The corolla.
6. The ten ſtamina.
7. Two ſtamina, the inſide of one, the outſide of another, preſented to view.
8. The fleſhy maſs in the centre of the flower.
9. The ſame magnified, to ſhew in what manner the ten ſtamina and ſquamæ are placed.

PLATE II.

QUASSIA SIMARUBA FEMINEA.

1. 2. 3. 4. The ſame as in the male flowers.
5. The piſtillum.
6. The ſtyle.
7. The ten imbricated ſquamæ.
8. One pericarpium or drupa.
9. The horizontal ſection of the ſame.
10. The nut.
11. A perpendicular ſection of the ſame.
12. The nucleus or kernel.

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